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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,616	06/26/2006	Shinji Saitou	060482	9654

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EXAMINER	
GILMAN, ALEXANDER	

ART UNIT	PAPER NUMBER
2833	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,616	SAITOU ET AL.	
	Examiner	Art Unit	
	Alexander D. Gilman	2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 16,20, are rejected under 35 U.S.C. 102(b) as being anticipated by McQuade et al

With regard to claim 16, 20, WO 02/061443 – inv. McQuade et al

disclose an electrically conductive contact holder comprising: a supporting member (76,74) with an opening (54) formed therein; and an holder hole forming unit set (56) in the opening that includes a holder hole accommodating an electrically conductive contact electrically connected to an external connecting terminal provided on a to-be-contacted member, wherein

any one (74a) of the supporting member and the holder hole forming unit has a coefficient of linear expansion higher than that of the to-be-contacted member , while the other (56) has a coefficient of linear expansion lower than that of the to-be-contacted member.

Claim 12-14, 18, 21, 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kazama.

With regard to claim 12, Kazama (US 6,337572) discloses (Fig. 2) an electrically conductive contact holder comprising a supporting member (10), with a contacting surface corresponding to a terminal surface of a to-be-contacted member on which a plurality of extemal connecting terminals are arranged, a plurality of electrically

conductive contacts (7,6) being arranged on the contacting surface to be electrically connected to the external connecting terminals and accommodated in holder holes, wherein the supporting member includes a high thermal expansion supporting frame (10a) with a coefficient of linear expansion higher than that of the to-be-contacted member; and

a low thermal expansion supporting frame (10b) that is arranged adjacent to the high thermal expansion supporting frame in a direction normal to the contacting surface, and has a coefficient of linear expansion lower than that of the to-be-contacted member.

that the high thermal expansion supporting frame (81) and the low thermal expansion supporting frame (82) are formed so that a coefficient of linear expansion of the supporting member lower than that of the to-be-contacted member

With regard to claim 13, Kazama discloses that thickness in the normal direction and the coefficient of linear expansion of each of the high thermal expansion supporting frame and the low thermal expansion supporting frame, corresponds to the coefficient of linear expansion of the to-be-contacted member.

With regard to claim 14, Kazama discloses (Fig. 2) that the supporting member (11) is formed so that the distribution of the coefficient of linear expansion thereof is symmetrical about a midplane in the normal direction to the contacting surface.

With regard to claim 18, Kazama discloses electrically conductive contact unit with a contacting surface opposed to a to-be-contacted member, the electrically conductive contact unit comprising:

an electrically conductive contact (6,7) that is arranged on the contacting surface to be electrically connected to an external connecting terminal provided on the to-be-contacted member in use;

a supporting member (10) that includes a high thermal expansion supporting frame (10b) with a

coefficient of linear expansion higher than that of the to-be-contacted member, and a low thermal expansion supporting frame (10c or 10a) that is arranged adjacent to the high thermal expansion supporting frame in a direction normal to the contacting surface and has a coefficient of linear expansion lower that that of the to-be-contacted member; and a circuit board (2) that is electrically connected to the electrically conductive contact and generates an electric signal supplied to the to-be-contacted member.

With regard to claim 18, Kazama discloses that the high thermal expansion supporting frame and the low thermal expansion supporting frame are formed so that a coefficient of linear expansion of the supporting member, defined based on the thickness in the normal direction and the coefficient of linear expansion of each of the high thermal expansion supporting frame and the low thermal expansion supporting frame, corresponds to the coefficient of linear expansion of the to-be-contacted member, and that the distribution of the coefficient of linear expansion thereof is symmetrical about a midplane in the normal direction to the contacting surface.

With regard to claim 21, Kazama discloses a supporting member (10) formed by stacking a plurality of plate members in layers and a holder hole forming unit set (9) in an opening formed in the supporting member, in which holder holes

are formed in the holder hole forming unit to accommodate electrically conductive contacts (6,7) that are electrically connected to external connecting terminals provided on a to-be-contacted member, respectively, Kazama discloses the method comprising:

forming openings in the respective plate members;

forming the supporting member by joining the plurality of the plate members formed with the openings in the thickness direction;

fixing the holder hole forming unit to the inner surface of the opening in the supporting member; and forming the holder holes in the holder hole forming unit.

With regard to claim 22, Kazama discloses the plate members are joined together by diffusion bonding (col. 5, lines 6-8), the holder hole forming unit is fixed by soldering (col. 5, lines 13-15), and the forming of the supporting member is performed simultaneously with the fixing.

Claim 12, 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Document 2002-139513 – inv. Kazama.

With regard to claim 12, Japanese Document 2002-139513 – inv.Kazama disclose (Fig. 5-9) an electrically conductive contact holder comprising a supporting member (11), with a contacting surface corresponding to a terminal surface of a to-be-contacted member on which a plurality of extemal connecting terminals are arranged, a plurality of electrically conductive contacts (3, 4) being arranged on the contacting surface to be electrically connected to the external connecting terminals and accommodated in holder holes, wherein the supporting member includes a high thermal expansion supporting frame (8) with a coefficient of linear expansion higher than that of the to-be-contacted member; and

a low thermal expansion supporting frame (1a, 1b) that is arranged adjacent to the high thermal expansion supporting frame in a direction normal to the contacting surface, and has a coefficient of linear expansion lower than that of the to-be-contacted member.

With regard to claim 14, Japanese Document 2002-139513 – inv.Kazama disclose (Fig. 5-9) that the supporting member (11) is formed so that the distribution of the coefficient

of linear expansion thereof is symmetrical about a midplane in the normal direction to the contacting surface.

With regard to claim 15, Japanese Document 2002-139513 – inv.Kazama disclose (Fig. 5-9) the supporting member further includes

an opening)12) at a region where the electrically conductive contacts are arranged; and

a holder hole forming unit that is set in the opening to form the holder holes therein.

With regard to claim 16, Japanese Document 2002-139513 – inv.Kazama disclose an electrically conductive contact holder comprising: a supporting member (11) with an opening (12) formed therein; and an holder hole forming unit set (13) in the opening that includes a holder hole accommodating an electrically conductive contact electrically connected to an external connecting terminal provided on a to-be-contacted member, wherein

any one (8) of the supporting member and the holder hole forming unit has a coefficient of linear expansion higher than that of the to-be-contacted member , while the other (1) has a coefficient of linear expansion lower than that of the to-be-contacted member.

With regard to claim 17, Japanese Document 2002-139513 – inv.Kazama disclose that the supporting member is formed of a plurality of plate members having different coefficients of linear expansion, which are stacked in layers in the thickness direction.

With regard to claim 18, Japanese Document 2002-139513 – inv.Kazama disclose electrically conductive contact unit with a contacting surface opposed

to a to-be-contacted member, the electrically conductive contact unit comprising:

an electrically conductive contact (3,4) that is arranged on the contacting surface to be electrically connected to an external connecting terminal provided on the to-be-contacted member in use;

a supporting member (11) that includes a high thermal expansion supporting frame (8)

with a

coefficient of linear expansion higher than that of the to-be-contacted member, and a low thermal expansion supporting frame (1) that is arranged adjacent to the high thermal expansion supporting frame in a direction normal to the contacting surface and has a coefficient of linear expansion lower that that of the to-be-contacted member; and

a circuit board (5) that is electrically connected to the electrically conductive contact and generates an electric signal supplied to the to-be-contacted member.

With regard to claim 20, Japanese Document 2002-139513 – inv.Kazama discloses electrically conductive contact unit with a contacting surface opposed to a to-be-contacted member, the electrically conductive contact unit comprising:

electrically conductive contacts that are arranged on the contacting surface to be electrically connected to external connecting terminals provided on the to-be-contacted member, respectively, in use;

a holder hole forming unit (13) where holder holes are formed to accommodate the electrically conductive contacts;

a supporting member (1a, 1b) that supports the holder hole forming unit; and

a circuit board that is electrically connected to the electrically conductive contacts and generates an electric signal supplied to the to-be-contacted member, wherein

the holder hole forming unit and the supporting member are formed so that one thereof has a coefficient of linear expansion higher than that of the to-be-contacted member, while the other has a coefficient of linear expansion lower than that of the to-be-contacted member.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazama in view of Japanese Document 8-5664.

Japanese Document 8-5664 discloses (section 0009) that the high thermal expansion supporting frame (81) and the low thermal expansion supporting frame (82) are formed so that a coefficient of linear expansion of the supporting member, defined based on the thickness in the normal direction and the coefficient of linear expansion of each of the high thermal expansion supporting frame and the low thermal expansion supporting frame, corresponds to the coefficient of linear expansion of the to-be-contacted member. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to arrange the frame components , as taught by Japanese Document 8-5664, to match thermal coefficients of the inspection board and IC wafer.

Response to Arguments

Applicant's arguments filed 12/09/08 have been fully considered but they are not persuasive.

Applicants argue that McQuade et al. fails to disclose that "any one of the supporting member and the holder hole forming unit has a coefficient of linear expansion higher than that of the to-be-contacted member, while the other has a

coefficient of linear expansion lower than that of the to-be-contacted member, as recited in claim 16 of the instant application.

However, the material and geometrical characteristics of the supporting member (laminated layers 74, 76) and the holder hole forming unit (56), hence they have different CTE. The thermal characteristics of the corresponding components are compared with that of a to-be contacted member which is not explicitly claimed as not being a part of the holder. Since requirements to and CTE of the to-be contacted member are not disclosed, quantitative thermal characteristic of an unspecified to-be contacted member would be between the respective characteristics of the holder's components.

Also, regarding the rejection over , Kazama (US 6,337,572) Applicants argue that No CTE differences are disclosed for thin plate members 10a to 10f, and Kazama, therefore, fails to disclose adjacent supporting frames having higher and lower CTE's, respectively, than the to-be-contacted members, as recited in claims 12 and 18 of the instant application.

However, it is clear that the upper layer 10a having a bonding agent on one side has a different thermal characteristics than that of layer 10b having a bonding agent on both sides. On the other hand, the thermal characteristics of the corresponding layers are compared with that of a to-be contacted member which is not explicitly claimed as not being a part of the holder. Since requirements to and CTE of the to-be contacted member are not disclosed, quantitative thermal characteristic of an unspecified to-be contacted member would be between the respective characteristics of the holder's components.

Also, regarding the rejection over , Kazama JP '2002-139513 the Applicants argue the the reference provided fails to disclose anything about coefficients of, thermal expansion, as recited in claims 12, 14-18 and 20 of the instant application.

However, the material and geometrical characteristics of the element 1a, 1b and the element 6 are different, , hence they have different CTE. The thermal characteristics of the corresponding components are compared with that of a to-be contacted member which is not explicitly claimed as not being a part of the holder. Since requirements to and CTE of the to-be contacted member are not disclosed, quantitative thermal characteristic of an unspecified to-be contacted member would be between the respective characteristics of the holder's components.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D. Gilman whose telephone number is 571

272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee S. Luebke can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alexander D Gilman/
Primary Examiner
Art Unit 2833

03/13/09

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